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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,093	04/06/2001	Tetsuji Mitsumoto	4296-135 US	5491

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EXAMINER

MANOHARAN, VIRGINIA

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/828,093	Applicant(s) MITSUMOTO ET AL.	
	Examiner Virginia Manoharan	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/19/01</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the joint part between said support ring and the inner wall of said column" recited e.g., in claim 3; and the "fixing part" recited e.g., in claim 4 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

[Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of

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any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance].

The specification had not been checked to the extent necessary to determine the presence of all possible minor errors e.g., typographical, grammar, idiomatic, syntax and etc. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claims 1-19 are objected to because of the following informalities:

- a. The preamble of claim 1 recites "...A method for the production of an easily polymerizable substance", however, the body of the claim does not positively recite the production or manufacturing of said substance. The claim appears to be directed more to performing purification by the use of a column, rather than to "production". See also claim 9.
- b. Are there two different trays being recited or the same tray especially with the recitation of "and" in claim 1, line 5?
- c. The term "further" in claims 18-19 provide for redundancy since claim 18, for example, is already recited in claim 15, claimed twice?
- d. The following claimed languages lack proper antecedent basis for supports in

the claims:

- a. "The joint part" in claim 3;
- b. "the fixing part" in claim 4 and claim 15; and
- c. the joint part between said support ring and the wall in claim 15.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102 (e) as anticipated by Matsumoto et al (6,214,174).

Matsumoto et al is deemed to anticipate the claimed "...method for the production of an easily polymerizable substance, comprising performing purification by the use of a column provided in at least part thereof with (a) a tray directly fixed with a bolt and a nut to a support ring fitted to the inner wall of the column and/or (b) a tray fixed to the support ring with a vertical clamp.." as broadly claimed in claim 1. See Figures 2-5; column 2, lines 65-66 and column 4, lines 1-27.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 and 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al (6,214,174) with or without Nutter (4,304,738).

Matsumoto et al is described above for claim 1.

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Obviously, the tray of Matsumoto is a dual flow tray as further claimed in claim 2, since Matsumoto's trays are perforated trays operating in a countercurrent vapor-liquid flow regime without downcomers. See Nutter's definition of a dual flow tray at column 6, lines 27-38. Furthermore, Matsumoto discloses at column 4, lines 28-42 the claimed features in claims 3-4, 15 and 18. That the column is a distillation column with a plurality of trays as claimed in claim 5 is suggested at column 3, lines 62-65. The 50 stages of Matsumoto is deemed to correspond to the claimed 3 to 100 trays in claims 6 and 16. (See Example 1, column 7). Moreover, that said easily polymerizable substance is at least one member selected from the group consisting of an unsaturated carboxylic acid, an ester thereof, a vinyl-group containing compound as claimed in claims 7-8, and noting further claim 17 is suggested or disclosed at column 2, lines 62-67 through column 3, lines 1-15 of the Matsumoto's reference.

Claim 9 is rejected under 35 U.S.C. 103(a) as obvious over Matsumoto et al (6,214,174) and Matsumoto et al (6,641,700).

Matsumoto et al '174 is discussed supra. The claimed splash collision plate in claim 9 is an obvious expediency in the art as suggested e.g., at col. 2, lines 55-67 through col. 3, lines 1-7 by the Matsumoto '700 reference. To combine the Matsumotos' references would have been obvious to one of ordinary skill in the art since both references are directed to a method for the production of an easily polymerizable substance and performing purification by the use of a distillation column.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Urbanski et al discloses a fraction tray with splice plates as a supporting member.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Manoharan whose telephone number is (571) 272-1450. The examiner can normally be reached on Tuesday--Friday from 9:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

V. Manoharan/dh
July 8, 2004


VIRGINIA MANOHARAN
PRIMARY EXAMINER
ART UNIT 128/164
7/8/04